

# Architectural Design

The code is separated into 3 packages:

1. Controller
2. Model
3. View

1. Controller: It has 2 classes “controller” and “ExtractedTasks” which interfaces with command line interface. It accepts the command from CLI and delegates them to the functionality in model packages.

2. Model: This package contains all the data, the behavior and the state of the game for the project. This package communicate directly with Controller and View. For this build this package contains 10 classes, 1 interface and 1 enum. The classes are as follows:

- Continent: This file contains the structure of a continent and all the behaviors/methods applicable on a constructor object.
- Country: This file contains the structure of a country and all the behaviors/methods applicable on a constructor object.
- Gameplay: This calls different methods from other classes as required by the game and it also called observers when any changes in states or operation occur.
- Mapx: This file contains the structure of a map and all the behaviors /methods applicable on a constructor object.
- Player: This file contains the structure of a Player and all the behaviors/methods applicable on a constructor object.
- Current Player: This files hold all the data and behaviors related to current player and gameplay has an object of this class. This class is implemented with singleton design pattern.
- Database: It is a static class which implements singleton design pattern. It holds the list of continents and a list of players.
- Graph: It is a file that defines the architecture of the game. The object of this class will hold the map in memory.
- Card: This class holds all the data related to the cards.
- CardPlay: This class holds the list of the cards in the game and initializes them. This class also has a method for check the validation of exchanges cards. This class is implemented with singleton design pattern.
- ISubject: This interface is a subject for the project observer design pattern.

- State: It has an Enum holds the list of constants that are used to hold the states and valid commands.

2. View: This package contains 3 views of the game.

- Phase view
- World Domination view
- Card exchange view

All of these views are concrete observers of the observer pattern design and they will be notified whenever specific change occur in Game Play class. Architectural design of the project is as follows:

